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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/546,624	11/01/2005	Manfred Walter	DNAG-308	4401

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EXAMINER	
SCHIRO, RYAN RAYMOND	
ART UNIT	PAPER NUMBER
1792	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/546,624	WALTER ET AL.	
	Examiner	Art Unit	
	RYAN SCHIRO	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *57-86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *57-86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/23/2005 and 01/11/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-56 have been cancelled. Claims 57-86 have been presented for examination.

Claim Objections

1. Claim 80 is objected to because of the following informalities: it is dependent on a claim that has been withdrawn (claim 29). It is assumed for the purposes of examination that claim 80 is dependent on claim 57. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 57-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (US 2001/0031811) in view of Jung et al. (US 6875479) and Jacob (US (5053081).

5. Li teaches a durable coating consisting of a silane monomer mixture, water-soluble organic polymer, surfactant, aliphatic alcohol, acid and water, as required by claim 57 and 81 (abstract). The coating composition may also contain fluorinated silane(s), as required by claim 57 and 81 (abstract). A hydrolyzable silane essentially free of flourine taught by Li is preferably glycidoxyalkylalkoxysilane, as required by claim 58 and 59 (0020). Li also teaches that one of the silane monomers is preferably the specific composition gamma-glyciloxy-propyltrimethoxysilane, as required by claim 60 (0022). The fluorine-containing silane may be a trifluoroacetoxypropyl tri(C1-C2)alkoxysilane, as required by claims 61 and 62 (0025). Li teaches the use of a surfactant as a component in the coating composition, as required by claim 64 (0030). Water soluble polymers that may be used for the synthetic resin mixture include polyvinyls, polyacrylates, and , particularly, polyvinyl pyrrolidones, as required by claims 65 and 66 (0028-0029). Li teaches a binding amount of said water-soluble polymer, which is about 1 to 8 weight percent, as required by the limitations of claims 57, 68 and 81 (0027). The total silane content of the composition is preferably 20-45 weight percent and the flourinated silane content is preferably 1 -10 weight percent of the total composition, as required by claims 57, 69, 70 and 81 (0020, 0025). Li teaches cleaning the substrate surface, applying the coating using

conventional methods such as spray coating, rolling, dipping, and flow coating, and finally drying and curing the film, as required by claims 57, 75, and 78 (0038-0040).

6. Li does not teach that the substrate is metal, the coating composition is free of chromate compounds, the thickness of the film formed, including inorganic particles, including lubricant, including a defoamer, coating material on top of the formed film, an amine of a specific compositon for stabilizing the solution or a polymer containing a phosphorous vinyl compound, as required by claims 57, 63, 64, 72-74, 76, 79, 80, 85 and 86.

7. Jung is drawn to a method for coating a metal surface with an aqueous composition and an aqueous composition characterized in that the composition contains water, an organic film former, inorganic particles having an average particle diameter from 0.005-0.3 micrometers, a corrosion inhibitor, and optionally at least one silane, as required by claims 57, 64 and 81 (abstract). The finished layer thickness is from 0.01-10 micrometers, as required by claim 57 and 81 (abstract). Also, the aqueous composition may be largely or entirely free from chromium (VI) compounds, as required by claim 57 (col. 2, lines 43-44). The silane can be: a bis-aminosilane with at least one alkoxysilane, a vinylsilane, an amino alkyl silane, or the like, as required by claim 63 (col. 6, lines 27-51). The acid groups of the synthetic resin are stabilized with ammonia, amines or an alkali metal compound, as required by claim 67 (col. 7-8, lines 66-3). The amine used to stabilize the acid groups of the synthetic resin may be morpholine, dimethylethanolamine, diethylehtanolamine or triethylanolamine, as required by claim 86 (col. 8, lines 1-3). An inorganic compound in particle form as a finely divided powder, a dispersion or a suspension, such as carbonate, oxide, silicate or sulfate is added as colloidal or amorphous particles based on at least one compound of aluminum, barium, cerium, calcium, lanthanum,

silicon, titanium, yttrium, zinc and/or zirconium, as required by claims 72 and 73 (col. 6, lines 60-67). The wax required by Jung can be a paraffin, polyethylene and polypropylene, in particular an oxidised wax, the amount of waxes in the composition being preferably in the range of 2-30 weight percent, as required by claim 74 (col. 7, lines 33-51). The coating composition may also contain at least one biocide, a defoaming agent and/or a wetting agent, as required by claim 76 (col. 9, lines 35-37). The coated metal surface of Jung may be dried at a temperature within the range from 20-400 degrees Celsius, as required by claim 77 (col. 10, lines 7-8). Onto the partially or entirely dried or cured film in each instance at least one coating consisting of lacquer, polymer, adhesive film, or the like is applied, as required by claim 79 (col. 10, lines 46-52). Metal strips or strip sections may be formed, painted and coated with polymers such as PVC for example, printed on, pasted over, sweated, welded and/or connected to one another or with other elements by clinching or other joining techniques, as required by claim 80 (col. 10, lines 53-58). The part having a metallic surface coated with the aqueous composition may be a wire, a wire winding, a wire netting, a steel strip, etc., as required by claim 82 (col. 11, lines 20-32). The coating is suitable for applying after a preceeding coating which is applied for corrosion protection, as required by claims 83 and 84 (col. 13, lines 14-21). The organic film forming agent may contain synthetic resin and/or polymer based on epoxide, phenol, polyacrylate, polyvinyl alcohol, polyurethane, etc. and in particular copolymers with a phosphorous-containing vinyl compound, as required by claims 66 and 85 (col. 5, lines 10-22).

8. Neither Li nor Jung teach including a metal chelate in the coating composition, as required by claims 57, 71 and 81.

9. Jacob teaches a final rinse composition for enhancing the coating adhesion and corrosion resistance properties of coated metal surfaces, comprising an aqueous solution of an organosilane and a titanium chelate, as required by claims 57 and 81 (abstract). It is an object of Jacob to be a chromium-free solution (col. 3, lines 41-42). The titanium chelate species includes a complex with an acetylacetonate ligand attached, as required by claim 71 (col. 4, lines 42-44).

10. It would have been obvious to a person ordinarily skilled in the art at the time of the invention to combine the composition containing a mixture of fluorinated and fluorine-free silanes for plastic substrates as taught by Li, with the silane coating composition of Jung specifically formulated for metal substrates. Jacob teaches that organofunctional silanes may be used as adhesion promoters to enhance the bonding polymeric coatings to metal, glass, or polymeric surfaces (col. 1, lines 57-63). Therefore, it would have been obvious to use the composition of Li on a metal substrate or with another similar composition that is formulated for metal substrates. One would have been motivated to combine the teachings of Li and Jung because the high reactivity of the flouro groups used in Li would be useful in the teaching of Jung to obtain a coating that would better adhere to the substrate and subsequent coating layers. It would have been obvious to a person ordinarily skilled in the art at the time of the invention to combine the use of a metal chelate in the silane coating composition, as taught by Jacob, with the teachings of a flourinated silane containing composition that is specifically formulated for metal surfaces. One would have been motivated to make this combination because Jacob is drawn to making a composition that contains no chromium yet is comparable to a chromium containing composition, while Jung is drawn to making a composition that contains as little chromium as possible due to environmental concerns.

Conclusion

Claims 57-86 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Schiro whose telephone number is 571-270-5345. The examiner can normally be reached on Monday-Friday from 8:30 AM to 6 PM.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached at 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan Schiro
Art unit 1792

/Michael Barr/

Supervisory Patent Examiner, Art Unit 1792